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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,043	08/28/2001	Gordon Taylor Davis	RAL920010013US1	5730

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EXAMINER

TRAN, NGHI V

ART UNIT PAPER NUMBER

2151

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,043

Applicant(s)

DAVIS ET AL.

Examiner

Nghi V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/28/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4-7, 11, 13-16, 18-19, are rejected under 35 U.S.C. 102(e) as being anticipated by Woodward et al., U.S. Patent No. 6,151,318 (hereinafter Woodward).

3. With respect to claims 1, 11, and 18-19, Woodward teaches a method for compressing data [col.4, Ins.23-35] for transmission using asynchronous transfer mode (ATM) [see abstract and figs.1-4], the data including a plurality of segments [240, 250, and 260 i.e. first data packet, second data packet, and six data packet], each of the plurality of segments including a first end [200 i.e. first ATM cell] and a second end [210 i.e. second ATM cell], the method comprising the steps of:

(a) representing the first end of a segment of the plurality of segments [col.4, Ins.11-58] with a partition compression code word [col.6, Ins.35-41 i.e. share a common header];

(b) compressing a remaining portion of the segment [fig.2].

4. With respect to claim 2, Woodward further teaches step (c) repeating steps (a) and (b) for each of a remaining portion of the plurality of segments [fig.2].
5. With respect to claims 4 and 13, Woodward further teaches the partition compression code word represents a partition command sequence [col.5, ln.59 - col.6, ln.41].
6. With respect to claims 5 and 14, Woodward further teaches (a1) providing a compound compression code word to represent the partition command sequence and another portion of the segment, the partition command sequence representing the first end of the segment [col.4, ln.59 - col.6, ln.6 i.e. segment type].
7. With respect to claims 6 and 15, Woodward further teaches the segment includes an IP packet [col.1, ln.59 - col.2, ln.10].
8. With respect to claims 7 and 16, Woodward further teaches the segment includes an ATM cell [fig.3].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3-6, 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodward as applied to claims 1, above, and further in view of Peterson et al., U.S. Patent No. 5,822,321 (hereinafter Peterson).

11. With respect to claims 3 and 12, Woodward is silent on the first end is a start of the segment.

In a communication method, Peterson discloses the first end is a start of the segment [fig.5 i.e. first segment].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Woodward in view of Peterson by specifying the first end as a start of the segment because this feature improves the efficiency of the data transmission for segmenting data transmission packets into smaller packets [Peterson, col.1, Ins.8-11]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Woodward in view of Peterson in order to maximize bandwidth based on the compression of user data (e.g., voice data into small data packets [Peterson, col.1, Ins.21-29].

12. Claims 8-10, 17, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodward as applied to claims 1, above, and further in view of

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Frachtenberg et al., U.S. Patent Application Publication No. 2003/0030575 (hereinafter Frachtenberg).

13. With respect to claims 8-10, 17, and 20-22, Woodward teaches a method for compressing data [col.4, Ins.23-35] for transmission using asynchronous transfer mode (ATM) [see abstract and figs.1-4], the data including a plurality of segments [240, 250, and 260 i.e. first data packet, second data packet, and six data packet], each of the plurality of segments including a first end [200 i.e. first ATM cell] and a second end [210 i.e. second ATM cell], the method comprising the steps of:

- (a) representing the first end of a segment of the plurality of segments with a partition compression code word, the partition compression code word representing a partition command sequence[col.6, Ins.35-41 i.e. share a common header];

- (e) compressing a remainder of the segment [fig.2], if any.

However, Woodward is silent on a method for compressing data for transmission including a dictionary being used in compressing the data, comprising:

- (b) adding bytes to a string including the command sequence representing the first end of the segment until the string does not have a match in the dictionary;

- (c) adding a code word to the dictionary, the code word including the partition command sequence as a root, the code word representing the string if the string is obtained in a first iteration;

- (d) utilizing the code word in the dictionary to represent the string if the string is not obtained in the first iteration.

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In a communication method, Frachtenberg discloses a method for compressing data for transmission including a dictionary being used in compressing the data [see abstract and figs.3-6], comprising:

(b) adding bytes to a string including the command sequence representing the first end of the segment until the string does not have a match in the dictionary [paragraphs 0003];

(c) adding a code word to the dictionary, the code word including the partition command sequence as a root, the code word representing the string if the string is obtained in a first iteration [paragraphs 0026-0038];

(d) utilizing the code word in the dictionary to represent the string if the string is not obtained in the first iteration [paragraphs 0212-0217].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Woodward in view of Frachtenberg by including a dictionary being used in compressing the data because this feature increases network efficiency without losing data [Frachtenberg, paragraphs 0008-0009]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Woodward in view of Frachtenberg in order to provide efficient compression of relatively short data packets having undefined contents as may be expected in a network [Frachtenberg, see abstract].

Conclusion

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14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. "Logical link connection server," by Baldwin et al., U.S. Patent No. 5,953,339.
- b. "Method of encapsulation of data into transport packets of constant size," by Herrmann, U.S. Patent No. 6,522,651.
- c. "Method and system for supporting constant bit rate encoded MPEG-2 transport over local ATM network," by Lin et al., U.S. Patent No. 5,742,599.
- d. "ATM cell compression device and ATM cell recovery device, ATM cell compression recovery device, ATM cell compression recovery system, and ATM cell compression recovery method," by Oyamada et al., U.S. Patent No. 6,535,526.
- e. "Mehod for controlling errors in link layer in wideband wireless communication and computer readable media therefor," by Kang et al., U.S. Patent No. 6,615,382.
- f. "Compact segmentation of variable-size packet streams," by Beshai et al., U.S. Patent Application Publication No. 2004/0213291.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi V Tran
Patent Examiner
Art Unit 2151

NT


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER